

**COMPARATIVE STUDY OF FUZZY LOGIC CONTROLLER AND
PROPORTIONAL INTEGRAL DERIVATIVE CONTROLLER ON DC-DC
BOOST CONVERTER**

This thesis is presented in partial fulfilment for the award of the

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ABSTRACT

This project indicates to the comparison between Fuzzy Logic Controller and Proportional Integral Derivative Controller (PID) in improving the performance of DC-DC Boost Converter. The evaluation of the result has been compared by using MATLAB Simulink. Comparison of simulation results indicates that the Fuzzy Logic Controller have much higher performance than the PID Controller. Fuzzy Controller can achieve faster transient response, steady state was more stable reaction and robust under different operating points.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

DC-DC converters have been dominated and controlled by analog integrated circuit technology and linear system design techniques. Lately, with the development of advanced high-speed digital circuits, digital control will regularly replace the current used of analog controller in high frequency switching converters [1].

DC-DC converter is an electronic device used at any time we want to change the DC power efficiently from the one voltage level to another. They are needed because unlike AC, DC can't be stepped up or stepped down only by using transformer. In many ways, the DC-DC converters is equivalent to transformer for DC.